



Maxx® Weld process gases
Improved productivity, fewer rejects, and a
better working environment

Ferromaxx® – for faster, cleaner welding of carbon steel

Purpose-designed for MIG welding carbon, carbon manganese and low alloy steels, the Ferromaxx® gases give superb weld quality and excellent penetration together with minimal spatter and low fume levels.

Improved productivity

Ferromaxx® Plus gas increases manual weld speeds by up to 19% compared with conventional shielding gas mixtures.

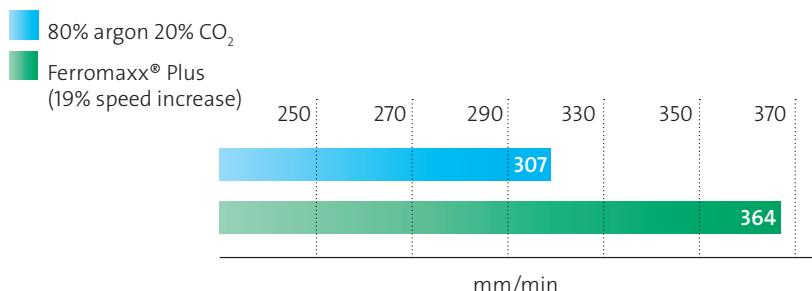
Fewer rejects

Ferromaxx® gases are easy to use and tolerant to variations in weld parameter settings. This improves weld quality and means fewer rejects.

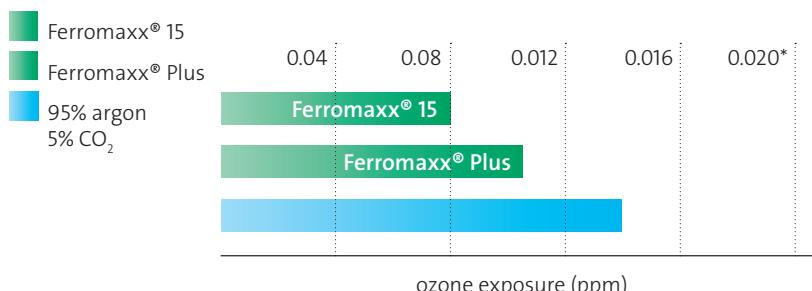
A better working environment

Because ozone is a health hazard which cannot always be removed by fume extraction equipment, Air Products has concentrated on developing gases that give low ozone exposure levels. The result – a gas that provides a better working environment as well as improved productivity and fewer rejects.

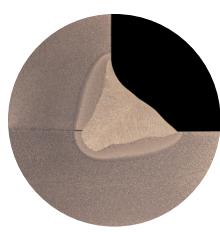
Average weld speed for manual MIG welding of 12mm thick carbon steel plate



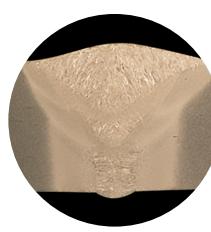
Average ozone exposure for manual MIG welding of carbon steel plate using spray transfer



*OSHA short term exposure Limit (15 min.) is 0.3 ppm.



Ferromaxx® Plus MIG
fillet weld in
12mm thick
AISI 1045 steel



Ferromaxx® 15 MIG
butt weld in
12mm thick
AISI 1045 steel



Ferromaxx® 7 MIG
fillet weld in
3mm thick
AISI 1045 steel

Ferromaxx® Plus*

the best gas for carbon steel

- Improves weld quality and reduces rejects, excellent penetration characteristics and tolerant to variations in weld parameter settings
- Higher productivity, up to 19% increase in manual weld speeds when compared with conventional mixtures and reduced cleanup times due to minimal spatter and a smooth, flat weld finish
- Suitable for all material thickness, and all consumable types (solid, metal and flux cored wires)
- Protects the work environment, minimal ozone generation

Ferromaxx® 15

the reliable all around gas

- Improves weld quality and reduces rejects, excellent penetration characteristics, tolerant to variations in weld parameter settings
- Suitable for all material thickness
- Protects the work environment, minimal ozone generation

Ferromaxx® 7

the thin steel specialist

- Improves weld quality and reduces rejects, excellent weld pool control, particularly at low voltages on thin sheet materials (up to 10mm thick) and for positional welding
- Cuts post weld cleaning times, ultra low spatter levels and excellent pulsed arc characteristics

* EU Patent 958098; Canada 2269113;
Japan 4037914; United States 6274838

Inomaxx® – maximum performance for welding stainless steel

The Inomaxx® range of gases has been developed to give high quality welds in stainless steel which have excellent surface finish and superb corrosion resistance.

Improved productivity

Increased productivity through higher weld speed is available from Inomaxx® Plus and Inomaxx® TIG gas mixtures.

Fewer rejects

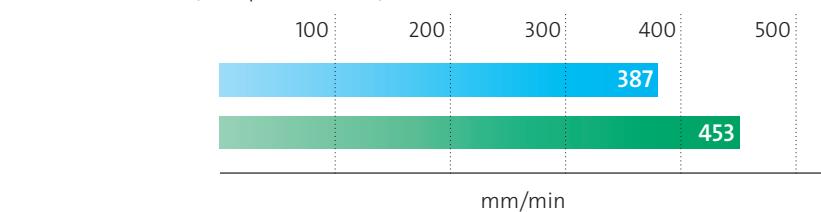
Inomaxx® gases are easy to use and tolerant to variations in weld parameter settings. This improves weld quality and means fewer rejects.

A better working environment

Because ozone is a health hazard which cannot always be removed by fume extraction equipment, Air Products has concentrated on developing gases that give low ozone exposure levels. The result – a gas that provides a better working environment as well as improved productivity and fewer rejects.

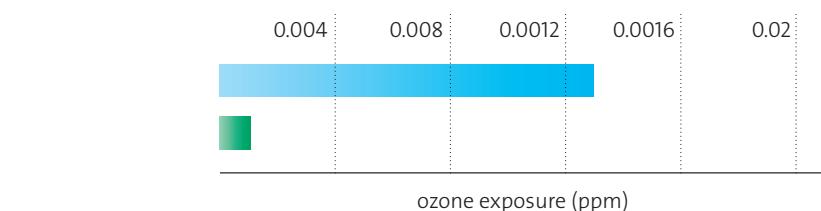
Average weld speed for manual MIG welding of 3mm thick AISI 316L stainless steel plate

- 98% argon 2% oxygen
- Inomaxx® Plus (17% speed increase)



Average ozone exposure for manual TIG welding of stainless steel plate

- argon
- Inomaxx® TIG (93% reduction in ozone exposure)



Inomaxx® Plus MIG fillet weld in 6mm thick AISI 316L stainless steel



Inomaxx® 2 MIG fillet weld in 3mm thick AISI 316L stainless steel



Inomaxx® TIG butt weld in 3mm thick AISI 316L stainless steel

Inomaxx® Plus the best gas for stainless

- Improves weld quality and reduces rejects, excellent penetration characteristics, tolerant to variations in weld parameter settings
- More productive, up to 17% increase in manual weld speeds when compared with conventional mixtures. Also, reduces cleanup times due to minimal spatter and a smooth weld finish
- Suitable for all material thickness and modes of metal transfer
- Protects the work environment, minimal ozone generation

Inomaxx® 2 the all around gas for stainless

- Excellent weld quality with low spatter levels and bright weld finish
- Highly suited to pulsed arc transfer, offering superior mechanical properties
- Suitable for all material thickness and modes of metal transfer

Inomaxx® TIG the best gas for TIG welding austenitic stainless

- Improves weld quality and reduces rejects through excellent penetration characteristics and brilliant, smooth, flat weld finish
- Higher productivity (up to 30% increase in manual weld speeds when compared with argon)
- Protects the work environment, minimal ozone generation

Alumaxx® – one gas that does it all for aluminum

Alumaxx® Plus shielding gas has been specifically designed as the only gas that you need for the high quality welding of aluminum and its alloys.

If you aim for the most exacting standards, you'll need a dedicated gas like Alumaxx® Plus. A multi-purpose shielding gas, it is specially designed for MIG and TIG welding aluminum and its alloys across all material thickness.

Alumaxx® Plus shielding gas gives superb weldability, combined with high welding speeds, up to 35% faster than possible with argon, as well as promoting safety through low ozone generation.

Just look at the advantages:

When you aim for the highest standards the elimination of weld metal porosity can be a problem. Alumaxx® Plus gas with its controlled helium addition is all that you need to give you the edge.

Improved productivity

Alumaxx® Plus shielding gas gives you an increase in manual weld speeds of up to 24% in MIG welding and up to 35% in TIG welding when compared with argon.

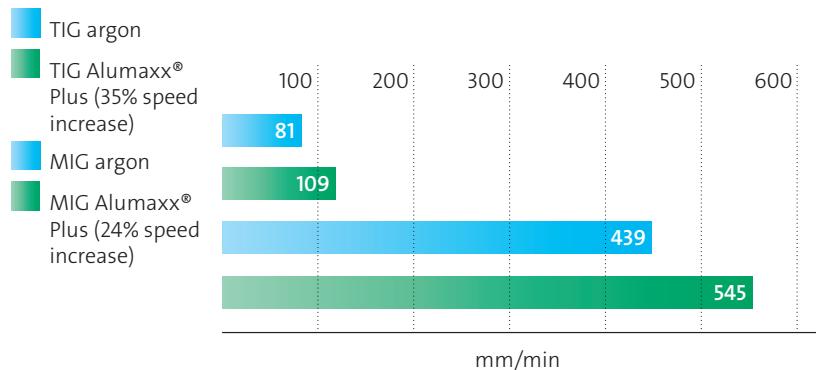
Fewer rejects

Alumaxx® Plus shielding gas is easy to use, gives ultra low porosity levels and excellent fusion characteristics. This improves weld quality and means fewer rejects.

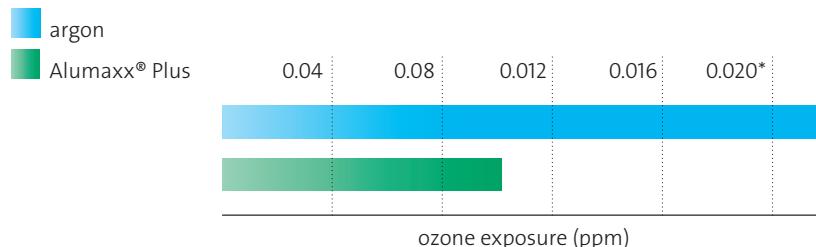
A better working environment

Because ozone is a health hazard which cannot always be removed by fume extraction equipment, Air Products has concentrated on developing gases that give low ozone exposure levels. The result – a gas that provides a better working environment as well as improved productivity and fewer rejects.

Average weld speed for manual MIG and TIG welding of 10mm thick aluminum alloy plate



Average ozone exposure for manual MIG welding aluminum 5% magnesium alloy plate (spray transfer)



*OSHA short term exposure limit (15 min.) is 0.3 ppm.



Alumaxx® Plus

the best and only gas you need for aluminum

- Improves weld quality and reduces rejects through excellent penetration, low porosity levels, and a flat weld finish. Also, superb arc starting for TIG welding
- Higher productivity – increase of up to 24% in MIG welding and up to 35% in TIG welding when compared with argon
- Multi-purpose shielding gas (MIG and TIG, all material thickness and modes of metal transfer)
- Protects the work environment, minimal ozone generation

Maximize your productivity with Air Products' range of shielding gases.

Whatever you're welding, Air Products' innovative shielding gas range will give you superior results. Formulated to boost output through a unique combination of weldability, weld quality and higher welding speeds, you'll achieve more with fewer rejects.

Productivity without compromise

This range of gases is also designed to protect people at work, by generating the lowest levels of ozone and fume.

Ask the customer

Extensively tested by Air Products' own specialists, by its customers and by independent accredited laboratories, including TWI (formerly The Welding Institute, UK), this range has proven performance.

| Material | Shielding gas | Application |
|-------------------------|--|---|
| Carbon and alloy steels | Ferromaxx® Plus the best gas for steel | MIG welding, all material thickness. Dip, pulsed and spray transfer. All welding positions. Solid, metal and flux cored wires. Coated steels. Manual, robotic or automated welding. |
| | Ferromaxx® 7 the thin steel specialist | MIG welding, up to 10mm material thickness. Dip, pulsed and spray transfer. All welding positions. Solid wires. |
| | Ferromaxx® 15 the reliable all around gas | MIG welding, all material thickness. Dip, pulsed and spray transfer. All welding positions. Solid, metal and flux cored wires. |
| Stainless steels | Inomaxx® Plus the best gas for stainless | MIG welding, all materials thickness. Dip, pulsed and spray transfer. All welding positions. Solid and metal cored wires. Manual, robotic or automated welding. |
| | Inomaxx® 2 the all around gas for stainless | MIG welding, all materials thickness. Dip, pulsed and spray transfer. All welding positions. Solid wires. |
| | Inomaxx® TIG the best gas for TIG welding austenitic stainless | TIG welding, all materials thickness. Manual, robotic, automated or orbital. |
| Aluminum and alloys | Alumaxx® Plus the best and only gas you need for aluminum | MIG and TIG welding, all material thickness. Pulsed and spray transfer. Manual, robotic or automated welding. |

Welding gases supplied to suit your needs

Air Products offers a range of welding gas supply options:

- CryoEase® Microbulk™
- Bulk liquefied gases

Gastrak® Economizer

Installing Air Products' Gastrack economizers saves you money by eliminating excessive weld process (shielding) gas flows from your processes.

Benefits include:

- Reduced costs by eliminating pre-weld surge ensuring optimum flow rates
- Improved quality of the weld and reduced rejects with consistent and optimum gas flow rates
- Easy installation into an existing or new weld process gas pipeline

Welding gases on tap

For the gas users we will design and install on-site Cryoease® services or bulk gas delivery system. This convenient method of supply enhances productivity, improves safety and reduces cost by eliminating cylinder handling and gas ordering. Air Products will manage the project from start to finish and ensure compliance with all relevant national and international safety guidelines and legislation.

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**For more information,
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